

REMARKS

Claims 1 and 3-13 are now pending in the application. Claim 2 has been cancelled. Claims 1, 9, 10 and 12 are currently amended. Support for these amendments may be found throughout the specification as originally filed. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 1 and 3-13 stand rejected under 35 U.S.C. § 112, first paragraph, while being enabling for compound comprising an alkoxysilane comprising a hydrophobic group that is alkyl group, fluoroalkyl group, or both alkyl group and fluoroalkyl group, does not reasonably provide enablement for alkoxysilane comprising any type of hydrophobic group. Claim 9 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

Applicants have amended Claim 1 to recite an alkoxysilane comprising a hydrophobic group selected from alkyl, fluoroalkyl, and mixtures thereof. Claim 9 has also been amended pursuant to the Examiner's suggestion. Therefore, Applicants respectfully submit that these amendments render this rejection moot and request reconsideration and allowance of these claims and those that depend therefrom.

REJECTION UNDER 35 U.S.C. § 102 AND § 103

Claims 1, 3-4, 10 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Matsumura et al. (U.S. Pat. No. 6,306,928). Claims 8, 11 and 13 stand

rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsumura et al. (U.S. Pat. No. 6,306,928) in view of Blease et al. (U.S. Pat. No. 6,585,362). Claims 1, 3 and 8-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Blease et al. in view of Matsumura et al. (U.S. Pat. No. 6,077,966). These rejections are respectfully traversed.

Independent Claims 1, 10, and 12 have been amended to recite a water-soluble substance that is a hydrolyzate formed by a reaction between a first compound, a second compound, and a third compound. The first compound comprises an alkoxysilane comprising an amino group, the second compound comprises an alkoxysilane comprising a hydrophobic group selected from alkyl, fluoroalkyl, and mixtures thereof, and the third compound comprises an alkoxysilane without an amino group.

Matsumura ('928) does not disclose a hydrolyzate of three distinct compounds, namely, a hydrolyzate of a first alkoxysilane compound comprising an amino group, a second alkoxysilane compound comprising a hydrophobic group, and a third alkoxysilane without an amino group. Rather, Matsumura ('928) discloses A, which is formed by reacting compounds i) and ii) together, where:

- i) comprises a single compound having an amine group, an alkoxysilane or acyloxysilane, as well as a hydrophobic alkyl or halogen (R¹) on the same compound.
- ii) is an epoxy compound. See for example, Col. 4 lines 7-21.

Matsumura ('928) further discloses stepwise hydrolysis of A with B. (See Col. 4 and Col. 7 lines 44-67.)

B) is a hydrolyzable silane having a non-nitrogenous substituted or unsubstituted monovalent hydrocarbon and the alkoxy or acyloxy group. (See e.g., Col. 4 lines 23-31)

Similarly, the ink can contain D, which can be formed by hydrolyzing a mixture of i) and B) and then subsequently reacting this hydrolyzate with ii) an organic monoepoxy. Col. 9 lines 32-44.

None of these permutations in Matsumura ('928) forms a hydrolyzate by reacting a first alkoxysilane compound comprising an amino group, a second alkoxysilane compound (distinct from the first compound) comprising a hydrophobic group, and a third alkoxysilane without an amino group. As such, Matsumura ('928) cannot and does not anticipate the claims.

The claimed water-soluble substance is a hydrolyzate formed by a reaction of three distinct compounds and undergoes a condensation-polymerization in the absence of the water that forms a hydrophobic network so as to enclose a colorant. Further, Matsumura has no suggestion to select the claimed compounds of the various permutations described.

The selection of this compound is specific to its use and function within a specific ink composition. In this regard, there is simply no suggestion or motivation to modify Matsumura ('928), either alone or in combination with Blease or Matsumura ('966) to arrive at the invention, as claimed in its entirety. Blease provides no motivation to include such a water-soluble compound that undergoes a condensation reaction in the absence of water, thus there is no suggestion or motivation to combine it with Matsumura ('966).

Matsumura ('966) describes a compound for use in heavy paints and finishes for construction materials, such as porous wood and wood composites, and has no suggestion or motivation to use such a compound in an ink composition for application to a relatively non-porous paper substrate. See *e.g.*, Col. 1 lines 8-14 and Col. 6 lines 16-33. Whether the Blease reference is combined with Matsumura ('928) or Matsumura ('966),

none of these references, alone or combined, provide the necessary motivation or suggestion to arrive at the entire invention as claimed, suitable for the intended purpose. As such, Applicants respectfully submit that the amended claims are allowable over the cited art and request reconsideration thereof.


CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0750, under Order No. 5077-000183/US from which the undersigned is authorized to draw.

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Respectfully submitted,

By 

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